

REMARKS

Claims 1-43 are pending in the application. The Office Action provides a detailed Response to Arguments on pages 2-6 and thereafter reiterates the claim rejections of the previous Office Action apparently without any revision. Applicants express appreciation for the detailed consideration and response to Applicants' previous remarks. However, the Response to Arguments section of the Office Action includes a new ground of rejection and, accordingly, the Office Action should not be made final. Applicants request withdrawal of such finality in the next Office Action.

Good and sufficient reasons exist why the present response is necessary after final rejection and was not earlier submitted. The new ground of rejection was first presented in the Office Action and the present response is Applicants' first opportunity to contest such new ground.

In section 3 on pages 2-3, the Office Action relies upon the present specification for the allegedly conventional teaching that ALD occurs "within an often-used range of temperature." The Office Action uses such teaching to support the allegation that Aarik's deposition of TiO_2 at 425 C is suggested by Aarik to be modified such that the second precursor (H_2O) may instead be deposited at up to 700 C. The Office Action alleges that since Aarik discloses a range of temperature, it is inherent that Aarik's deposition exposes the second monolayer to a higher temperature than the first monolayer.

The Office's reliance on the present specification ("Applicants disclosure, page 9, lines 1-6") constitutes a new ground of rejection since the teachings of the newly cited reference are relied upon to support the Office's allegation. The Applicants have not amended the currently pending claims and, accordingly, the new ground of rejection cannot

be considered to have been necessitated by any such amendments. Any new ground of rejection is required to be presented in a non-final action.

Page 2, section 2 of the Office Action states that the subject allegations apply to all independent claims (1, 18, 26, and 31). Some of such claims and their dependents are rejected as anticipated by Aarik, others are rejected as unpatentable over Aarik in view of Sherman, and still others are rejected as unpatentable over Aarik in view of Doering. Thus, it is apparent that each of the three grounds for rejection should be modified and "Applicants disclosure" listed in combination with the already cited references for each ground of rejection, creating three new grounds of rejection. Further, it is apparent that claims 1-15 and 18-30 cannot be considered as anticipated by Aarik since the Office Action relies upon "Applicants disclosure" in supporting the anticipation rejection. At least for the reasons indicated herein, Applicants request withdrawal of the finality of the present rejections in the next Office Action.

Applicants assert that the Response to Arguments, while detailed, is insufficient to establish that the cited art does not suffer from the deficiencies described in the Applicants' Response to the June 3, 2002 Office Action. Applicants herein reiterate, by reference, the entire remarks set forth in such previous Response with the revisions described below. Even so, Applicants assert that the prior Response is sufficient to overcome every ground of rejection, including new grounds of rejection, in the current Office Action. However, Applicants provide the revisions below to counter the Response to Arguments of the current Office Action and make a correction.

Applicants previously noted that page 263 of Aarik states in column 1, lines 38-43 that "temperatures as high as 700 C are needed to cause partial phase transition from TiO₂-II to rutile in the case of ALD-grown films." In countering the allegations of the Office,

Applicants previously argued that such text does not disclose or even suggest the limitations of independent claims 1, 18, 26, and 31. Applicants now further note that such text of Aarik expressly cites to reference [8] that is now of record per a Supplemental Information Disclosure Statement filed herewith. The newly cited art (hereinafter Aarik 1996) clearly supports the Applicants' previous assertions that the "temperatures as high as 700 C" language does not disclose or suggest the subject matter of the pending claims. The pertinent Aarik 1996 text occurs in column 2 of page 498 to column 1 of page 499. The discussion in the text involves a test of deposited films to determine temperatures at which a phase transition takes place from a TiO_2 -II crystal structure to a rutile crystal structure. Aarik 1996 states that "an annealing temperature as high as 700 C was necessary in order to observe the appearance of rutile." Thus, contrary to Applicants' previous assertions, the "temperatures as high as 700 C" language does not in any way involve a deposition process. Instead, the text only pertains to annealing of films already formed. As such, neither Aarik nor Aarik 1996 can be considered to disclose or suggest the subject matter of claims 1, 18, 26, and 31, especially for such reason, in addition to previously asserted reasons. In particular, no suggestion exists to modify Aarik's deposition at 425 C by instead depositing H_2O at 700 C or some temperature other than 425 C. At least for such reasons, the Office's reliance on Aarik is misguided.

In addition, Applicants again traverse the assertion in the June 3, 2002 Office Action that merely describing one method using a temperature of 425°C and a second method using a different temperature constitutes teaching the method set forth in the claims of using a second temperature greater than the first temperature in the same deposition process. No disclosure or suggestion exists in the cited art to vary deposition temperature.

Since all of the present grounds for rejection rely on Aarik, each of such rejections may be considered insufficient against claims 1, 18, 26, and 31, as well as the claims depending therefrom. Accordingly, Applicants request withdrawal of such rejections and allowance of all pending claims 1-43 in the next Office Action.

Respectfully submitted,

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